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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,720	12/02/2003	Roy M. Zeighami	200300353-1	4318

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HEWLETT PACKARD COMPANY  
P O BOX 272400, 3404 E. HARMONY ROAD  
INTELLECTUAL PROPERTY ADMINISTRATION  
FORT COLLINS, CO 80527-2400

EXAMINER
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RUTLAND WALLIS, MICHAEL

ART UNIT	PAPER NUMBER
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2835

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/725,720

Applicant(s)

ZEIGHAMI ET AL.

Examiner

Michael Rutland-Wallis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-15 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

Applicant's amendment to the specification is hereby entered.

***Response to Arguments***

*Drawings*

In view of the amendments and arguments regarding objections to the drawings the previous objections are hereby withdrawn, as the objections are moot in view of the amendments and arguments.

*Claim Rejections - 35 USC § 112*

In view of the amendments and arguments regarding the 112 2<sup>nd</sup> rejections in the previous action are hereby withdrawn.

*Claim Rejections - 35 USC § 103*

Applicant's arguments filed 06/19/2006 have been fully considered but they are not persuasive.

Applicant contends improper motivation in the combination of Henze and Chesavage. As the office action points out Henze teaches all the claimed limitations of claim 1 with the exception of the explicit disclosure of interface to prevent current from

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entering one of the supplies generated from another one of the supplies or isolation diodes. The office action further describes the use of interface connections to prevent such current flow as well known in the art and an example of such a teaching of the use of said interface connection in plural supply system is found in Chesavage. Applicant's argument that Chesavage teaches away from combination with Henze for reasons as Chesavage teaches a power sharing method, which is an improvement above and away from droop sharing configuration. The teaching of Chesavage are cited to illustrate the use of an interface to prevent current from entering one of the supplies generated from another one of the supplies. One need not "combine" the power sharing methodology taught by Chesavage with the teachings of Henze in order to render obvious the use of such an interface connection. This evidence (col. 3 lines 4-6 Chesavage) cited is insufficient to overcome the obviousness rejection. The office maintains inclusion of said interface to prevent current from entering one of the supplies generated from another one of the supplies would have been obvious to one of ordinary skill in art. Additional teachings of the use of such an interface to isolate and protect supplies in the arrangement similar to that found in Henze are cited for applicant, in support of the office's obviousness conclusion. See Ho et al. (U.S. Pat. No. 6,677,687) figure 11 where the use of isolating and protecting interface connection are found also the previously cited Rock (U.S. Pat. No. 6,121,693) teaches in figures 2 and 3 supply isolators 73 and 83 which would render obvious the use of isolating and protecting interface connection circuitry such as that of claim 1.

Secondly applicant alleges the inclusion of the teachings of Wasaki are improper because Wasaki is non-analogous art where applicant cites *Wang Labs., Inc V. Toshiba Corp.* Wasaki relates to a system to distribute and share power among a plurality of devices. While applicants argue differences between AC and DC power are found in combination of references such specifics of the type of power (i.e. AC power and DC power) are not claimed therefore the teaching of "power" distribution and sharing are maintained as analogous.

In view of the above rejections are proper and therefore not withdrawn.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 7-8, 10 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henze (U.S. Pat. No. 4,924,170) in view of Chesavage (U.S. Pat. No. 5,834,925)

With respect to claims 1, 7-8 and 12 Henze teaches a power supply system (Fig. 5) comprising: a plurality of cascading power units (PSM 1-PSM n) arranged in parallel; a connection interface (items 30 and 32 34 and 36) between said plurality of cascading

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power units and an electronic load; and wherein each one of said plurality of cascading power units has a maximum effective output voltage greater than a next (column 2 lines 14-26) one of said plurality. While Henze is silent on the use of a connection interface circuitry to prevent current from other power units from entering another powering unit. The use of such circuitry is well known in the art to protect and isolate supplies from each other an example of such a connection interface may be seen in Chesavage (Fig. 1 or Fig. 5) where a similar system to that of Henze is taught. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Henze to include the use of a isolation interface or other such circuitry in order to protect the supplies from damage in fact this is not the present operation of Henze.

With respect to claim 3 Henze teaches a connection interface is disposed within said load.

With respect to claims 4, 10 and 13 Chesavage teaches a circuit (diode) operable to limit the voltage to that of the power unit next to it. The turning on the diode will latch the voltage to that of the supply next to it during power droop.

With respect to claims 5, 11 and 14 teaches receiving a signal to deactivate said limiting; and deactivating said limiting. Henze as modified by Chesavage teach if the voltage of the supply with the higher voltage increases or return from a power droop state the latching component i.e. diode would cutoff deactivating the component.

Claims 2 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Henze (U.S. Pat. No. 4,924,170) in view of Chesavage (U.S. Pat. No. 5,834,925) as applied to claims 1 and 7 above, and further in view of Wasaki (U.S. Pub. No.

20030095036) Henze as modified by Chesavage above teach the device of claims 1 and 7 but are silent on selection impedance within said connection interface for setting said maximum effective output voltage for each of said plurality of cascading power units. Wasaki teaches the use of impedance matching circuits (items 20), the matching and selection of impedance values to deliver optimal power is well know in power distribution therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Henze as modified by Chesavage to further include the use of impedance selection to maximize the power output to the load.

Claims 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henze (U.S. Pat. No. 4,924,170) in view of Chesavage (U.S. Pat. No. 5,834,925) as applied to claims 1 and 7 above, and further in view of Rock (U.S. Pat. No. 6,121,693)

With respect to claims 6 and 15 Henze as modified by Chesavage do not teach the use of a timer. The use of timer to activate and deactivate additional supplies is seen for example in Rock where Rock teaches the use of memory and timing elements (col. 5 Line 30-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Henze as modified by Chesavage to include timing control to enable and temporary adjustment to the power distribution system.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ho et al. (U.S. Pat. No. 6,677,687)

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Rutland-Wallis whose telephone number is 571-272-5921. The examiner can normally be reached on Monday-Thursday 7:30AM-6:00PM EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MRW

  
LYNN FEILD  
SUPERVISORY PATENT EXAMINER